

2005 Commercial Passenger Vessels Discharge Status and Wastewater Treatment

Vessel Operator	Vessel Name	Total Persons on Board ¹	Number of Port Calls ²	Blackwater (BW) Treatment System Manufacturer	Graywater (GW) Treatment System Manufacturer	Discharging in Washington ³ <small>1 nm from berth and ≥ 6 knots</small>		Discharging in Washington ³ <small>continuously (at berth or within 1 nm of berth)</small>		Type of Treatment System ⁴
						BW	GW	BW	GW	
Celebrity Cruises	<i>Mercury</i>	2279	22	Biopure/Rochem	Mixed with BW	NO	NO	NO	NO	AWTS: Rochem is a reverse osmosis ultrafiltration system
Celebrity Cruises	<i>Summit</i>	3409	2	Hamann/Lazarus	None	NO	NO	NO	NO	Hamann/Lazarus is dilution and filtration system
Holland America	<i>Amsterdam</i>	2107	20	Unknown	Unknown	NO	NO	NO	NO	Unknown
Holland America	<i>Ooesterdam</i>	2624	21	Rochem	Rochem	YES	YES	NO	NO	AWTS: Rochem is a reverse osmosis or ultrafiltration membrane bioreactor
Holland America	<i>Volendam</i>	2060	1	Zenon	Mixed with BW	YES	YES	NO	NO	AWTS: Zenon is a biological reactor and ultrafiltration system
Holland America	<i>Veendam</i>	1854	2	Zenon	Mixed with BW	YES	YES	NO	NO	AWTS: Zenon is a biological reactor and ultrafiltration system
Holland America	<i>Zaandam</i>	2080	1	Zenon	Mixed with BW	YES	YES	NO	NO	AWTS: Zenon is a biological reactor and ultrafiltration system
Norwegian Cruise Lines	<i>Norwegian Dream</i>	2448	12	Scanship	Mixed with BW	YES	YES	YES	YES	AWTS: Scanship is a biological reactor flocculation/flotation & UV disinfection system
Norwegian Cruise Lines	<i>Norwegian Star</i>	4000	20	Scanship	Mixed with BW	YES	YES	YES	YES	AWTS: Scanship is a biological reactor flocculation/flotation & UV disinfection system
Norwegian Cruise Lines	<i>Norwegian Sun</i>	3200	1	Scanship	Mixed with BW	NO	NO	NO	NO	AWTS: Scanship is a biological reactor flocculation/flotation & UV disinfection system
Norwegian Cruise Lines	<i>Norwegian Spirit</i>	3600	18	Scanship	Mixed with BW	YES	YES	YES	YES	AWTS: Scanship is a biological reactor flocculation/flotation & UV disinfection system
Princess Cruise Line	<i>Diamond Princess</i>	3908	21	Hamworthy Bioreactor	Mixed with BW (except galley/laundry - no treatment)	YES	YES	YES	YES	AWTS: Hamworthy is a biological reactor and ultrafiltration system
Princess Cruise Line	<i>Sapphire Princess</i>	3908	21	Hamworthy Bioreactor	Mixed with BW (except galley/laundry - no treatment)	YES	YES	YES	YES	AWTS: Hamworthy is a biological reactor and ultrafiltration system
Princess Cruise Line	<i>Sun Princess</i>	2780	1	Unknown	Unknown	NO	NO	NO	NO	Unknown
Mariser Marine	<i>Universe Explorer</i>	815	2	Unknown	Unknown	NO	NO	NO	NO	unknown
Venus	<i>Pacific Venus</i>	900	1	Unknown	Unknown	NO	NO	NO	NO	unknown
West Steamship	<i>Empress of the North</i>	320	3	Orca	chlorine	NO	NO	NO	NO	Macerator Chlorinating System

¹Numbers come from the Alaska Discharge Status Report and information gathered from the cruise industry. Most values include both passengers and crew. Actual number of passenger aboard varies dependent upon sales.

²Number of Port calls comes for Port of Seattle Cruise Schedule for 2005

³Washington waters refers to the "waters subject to this Memorandum of Understanding (MOU)" as defined in the MOU signed April 20, 2004

⁴Information on the types of treatment systems comes from the cruise industry themselves

